

CLAIMS:

1. A process for producing a leukocyte composition for autotransplantation comprising the steps of:
 - (a) providing an isolated blood sample from a donor individual;
 - (b) selectively separating and collecting leukocytes from the sample using a leukapheresis device.
- 5 2. The process of claim 1 wherein the leukapheresis device is an automated leukapheresis device.
3. The process of claim 1 or claim 2 wherein the leukapheresis device comprises a closed or functionally closed system.
- 10 4. The process of claim 2 or claim 3 wherein the leukapheresis device is a continuous or interrupted flow centrifugation leukapheresis device or a continuous or interrupted flow filtration leukapheresis device.
- 15 5. The process of any one of the preceding claims wherein the leukapheresis device comprises: (a) a separation device (e.g. a centrifuge rotor or filter); (b) a leukapheresis tubing set; and (c) one or more pumps for conveying the sample through the tubing set and the separated leukocytes into a collection vessel.
- 20 6. The process of any one of the preceding claims for producing a leukocyte composition for restorative autotransplantation, further comprising the steps of:
 - (c) rendering the collected leukocytes dormant (e.g. by cryogenic preservation); and optionally
 - (d) revitalizing the dormant leukocytes (e.g. by thawing and/or dilution).
- 25 7. The process of any one of claims 1 to 5 for producing a leukocyte composition for remedial autotransplantation, further comprising the steps of:
 - (c) treating the collected leukocytes; and optionally
 - (d) rendering the treated leukocytes dormant (e.g. by cryogenic preservation).
8. The process of claim 7 further comprising the step of:- 30 (e) revitalizing the dormant treated leukocytes (e.g. by thawing and/or dilution).
- 9. The process of claim 6 for producing a leukocyte cell bank, wherein the process is applied iteratively to a series of blood samples from different donor individuals to produce a plurality of dormant (e.g. cryogenically preserved) leukocyte compositions, the process further comprising the step of retrievably depositing the dormant leukocytes for later autotransplantation.
- 35 10. A system (e.g. a closed or functionally closed system) for collecting an isolated blood sample from an individual comprising: (a) sampling means (e.g. comprising a needle) for collecting a blood sample from the individual; (b) a sample vessel in fluid communication with the sampling means; (c) a leukapheresis tubing set in fluid communication with the sample vessel, wherein the tubing set is blind, not comprising means for reintroducing any part of the fractionated sample back into the individual.
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11. The system of claim 10 wherein the tubing set comprises one or more (e.g. three) leukocyte collection vessel(s).
12. The system of claim 10 or claim 11 wherein the tubing set further comprises a blood processing vessel
5 (e.g. a centrifuge loop).
13. The system of any one of claims 6 to 8 wherein the tubing set further comprises a vessel for residual blood from which the leukocytes have been removed.
- 10 14. The system of any one of claims 10 to 13 further comprising a needle for conducting a blood sample from the individual into the sample vessel.
- 15 15. Apparatus for selectively separating and removing leukocytes from an isolated blood sample from an individual comprising a leukapheresis device loaded with the collection system of any one of claims 10 to 14.
16. The apparatus of claim 15 wherein the leukapheresis device is as defined in any one of claims 2 to 5.
17. A leukocyte composition obtainable (or obtained) by the process of any one of claims 1 to 9.
18. A leukocyte cell bank obtainable (or obtained) by the process of claim 9.
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19. The leukocyte composition of claim 17 for use in therapy or prophylaxis.
20. Use of the leukocyte composition of claim 17 for the manufacture of a medicament for use in autotransplantation (e.g. in CAT therapy or in restorative or remedial autotransplantation).
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